Computer Security

The Computer Security Program is designed to prepare graduates for careers in the field of Information Technology, equipping them with marketable skills and a targeted knowledge of the infrastructure that support IT in business. The hands-on labs built into this program ensure that the graduates will have gone beyond theoretical studies.

COMPUTER FACILITIES

- Modern, networked PC computer laboratories equipped with IBM compatible PCs in a Windows XP environment. Additional hardware laboratories.
- Small class size with instructors available for individual assistance.
- Supervised lab facilities are open seven days a week and Monday – Thursday evenings. All students may use these facilities.
- A variety of popular software programs are available in the labs.

ADMISSIONS PROCESS

Contact the Admissions Office at 857-7060 to learn about the opportunities available at NCC. For specific information about the Computer Security degree program, contact Professor Paul Silberquit, at 857-3321, or email at psilberquit@ncc.commnet.edu

THE SUPPORT SYSTEM

NCC offers a complete student support system with a variety of services and activities designed to help you enjoy a successful college career.

PROGRAM OF STUDY

This two-year, transfer program prepares students for technical positions within the fast-evolving field of Computer Security. Course work focuses on development of technical competency in desktop hardware and software, networks and servers, a broad understanding of computer and information security and development of written and verbal communication skills. The optional internship experience provides the student with on-the-job experience that can help jumpstart students' careers. Completion of this program leads to the Associate in Science Degree.

COMPUTER SECURITY

Semester I		Credits
EN101	Composition	3
MAT120	College Algebra or Higher	3-4
CMP 119	Introduction to Programming	4
CMP107	Networking 1	4
Liberal Arts elective*		3
		17-18

Semester II		
EN102	Literature & Composition	3
STA203	Speech Communication	3
CMP117	Networking 2	4
CMP111	Internet Commerce Technology	3
Biology, Physical or General Science at 100 level or higher *		4
		17

Semester III		
CMP 127	Networking 3	4
CMP 230	Operating Systems	4
CMP 256	Security Management Practices	3
Humanities Elective*		3-4
		14-15

Semester IV		
CMP137	Networking 4	4
CMP 253	Network Security Technology	3
CMP 251	Operations Security Technology	3
Liberal Arts Elective*		3
Social Science Elective*		3
		16

	Grand Total	**64-66**
CMP 299	Optional Cooperative Education Internship	3

*One of these electives must be an Interdisciplinary (IDS) course

COURSE DESCRIPTIONS

CMP 107   Networking 1
Prerequisite: Eligibility for EN 101 and MAT 120

An introduction to computer networking concepts. Topics include the functions of the ISO/OSI reference model; data link and network addresses; the function of a MAC address; data encapsulation; the different classes of IP addresses (and subnetting); the functions of the TCP/IP network-layer protocols. The student learns to plan, design and install an Ethernet LAN using an extended or hierarchical star topology; to select, install, and test cable and determine wiring closet locations; to perform beginning network maintenance, tuning, and troubleshooting along with basic documenting, auditing and monitoring of LANs. This course consists of lecture, and computer based training, as well as hands-on laboratories. Three hours of class work, two hours of laboratory

CMP 111   Internet Commerce Technology
Prerequisites: Eligibility for EN101 and one of the following: CMP103, CMP101, BU115 or equiv. experience desktop applications & internet search.

This introductory course covers the current technologies supporting today's internet commerce initiatives and the business rationales for conducting commerce via electronic rather than traditional means. Some of the technologies explored in the course include payment systems, web server tools and security systems.

CMP 117   Networking 2
Prerequisite: CMP 107

This is the second in a series of courses designed to provide students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment and/or further education and training in the computer networking field. Instructional topics include safety, networking terminology and protocols, network standards, LANs, WANs, OSI models, Ethernet, Token Ring, Fiber Distributed Data Interface, TCP/IP addressing protocols, dynamic routing, and the network administrator's role and function. Particular emphasis is given to the use of decision-making and problem-solving techniques in solving networking problems.

CMP 119   Introduction to Programming
Prerequisite: Placement in MAT 120 or MAT 125

Fundamentals of programming and program development techniques are covered in this course. Topics include data types, functions, storage class, selection, repetition, pointers, arrays, and file processing. Programming projects are created and tested in a closed laboratory, instructor-supervised environment.

CMP 127   Networking 3
Prerequisites: CMP 117

This is the third course in four courses designed to introduce new content and extend previously learned networking skills which will empower the student to enter the workforce and/or further their education and training in the computer networking field. Instruction introduces and extends the student's knowledge and practical experience with switches, Local Area Networks (LAN's) and Virtual Local Area Networks (VLAN's) design, configuration and maintenance. Students develop practical experience in skills related to configuring LAN's, WAN's, Novell networks, Internetwork Packet Exchange (IPX) routing and Interior Gateway Routing Protocol (IGRP), protocols and network troubleshooting.

CMP 137   Networking 4
Prerequisites: CMP 127

This is the fourth course in the four-course series designed to introduce new content and extend previously learned networking skills. Instruction introduces and extends the student's knowledge and practical experience with Wide Area Networks (WANs), Integrated Services Data Networks (ISDN) and Point-to-Point Protocols (PPP) and Frame Relay design, configuration and maintenance. Students develop practical experience in skills related to configuring WANs, ISDN, PPP, and Frame Relay protocols and network troubleshooting.

CMP 230   Operating Systems
Prerequisite: CMP 107 OR CMP 119 OR any CMP 200 level course with a grade of C or higher

Operating Systems provides an introduction to Unix based operating systems. The course focuses on basic skills in using a command line operating system. Students will learn the characteristics of the common Unix shells, the Unix based file and directory system, file management, permissions, the "vi" editor, and basic computer networking concepts and commands. Graphical user interface environments and PC operating systems will be discussed. Three hours of class work, two hours of laboratory.

CMP 251   Operations Security Technology

Prerequisite: CMP 230

The Operations Security Technology course covers the identification of the controls over hardware and media, and the operators with access privileges to any of these resources. A computer security professional is expected to know the resources that must be protected, the privileges that must be restricted, the control mechanisms available, the potential abuse of access, the appropriate controls, and the principles of good practice. All of these topics are addressed in this course.

CMP 253   Network Security Technology

Prerequisite: CMP127 OR CCNA certification

The Network Security domain encompasses the structures, transmission methods, transport formats, and security measures used to provide integrity, availability, authentication, and confidentiality for transmissions over private and public communications networks and media. This course will give the student both knowledge and hands-on practice in network security software, including preventive, defective and corrective measures.

CMP 256   Security Management Practices

Prerequisites: EN101, CMP 111 and CMP 117

Security management entails the identification of an organization's information assets and the development, documentation, and implementation of policies, standards, procedures and guidelines that ensure confidentiality, integrity and availability. This course will prepare the student to understand the planning, organization and roles of individuals involved in security, develop security policies, and utilize management tools used to identify threats, classify assets and rate vulnerabilities.

CMP 299   Cooperative Education Work Experience

Prerequisites: EN 101, minimum 2.0 GPA, sophomore status, advanced programming courses and approval of the department

This course combines a classroom seminar with on-the-job learning. Students who meet program eligibility work at an approved Cooperative Education site and attend a regularly scheduled seminar on campus. The seminar covers the establishment of learning goals for the work assignment, career development and work-related problem solving. Faculty assign a final project designed to elicit on-the-job learning specific to internet commerce technology or networking. Students must satisfactorily complete the seminar, the final project, and the work assignment to receive credit.

Your Road to Success Starts Here

Norwalk Community College is a fully-accredited college offering traditional liberal arts, transfer and technical programs leading to an associate degree or specialized training. Our mission is to provide southwest Fairfield County residents with educational excellence through a winning combination of small classes, dedicated faculty, flexible class times, and affordable tuition. Each year more than 5,500 students enroll in our associate degree and credit programs, while an additional 5,000 attend classes through our Extended Studies division. Credits earned at NCC are transferable to four-year universities and colleges.

Student Support System

NCC offers a complete student support system with a variety of services and activities designed to help you enjoy a successful college career.

- Career Center
- Child Development Center
- Counseling
- English as a Second Language
- Financial Aid
- Fitness Center
- Full Access Campus
- Learning Resources Center/Library
- Orientation
- Services for Students with Disabilities
- Servicios Para Los Hispanos
- Student Activities
- Student Employment Services
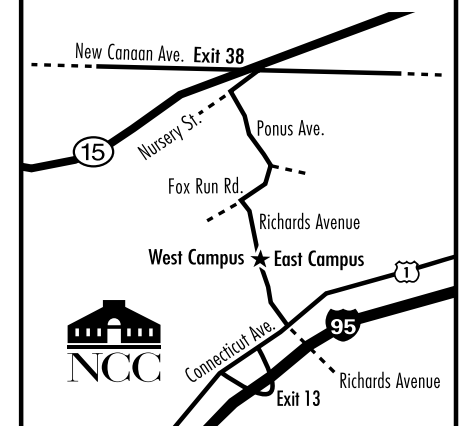- Student Support Services
- Tutoring Center

Directions to NCC

From the Merritt Parkway (Route 15)

Northbound: Exit 38. Right at the stoplight onto New Canaan Ave. At next stoplight, turn left onto Nursery Street. At the stop sign, bear left onto Ponus Avenue. At the fork, bear right onto Fox Run Road. At the stop sign, turn left onto Richards Avenue and proceed one mile. The East Campus will be on the left, the West Campus on the right.

Southbound: Exit 38. Turn right onto New Canaan Ave. At first stoplight, turn right onto Nursery Street. See above...

From Interstate 95 (I-95) *Northbound or Southbound.* Exit 13. Turn right onto Connecticut Ave. (Route 1). At the second stoplight, turn left onto Richards Ave. (Shell Station on corner) continue 3/4 miles. The East Campus will be on the right, the West Campus on the left.

New Canaan Ave. **Exit 38**

15 Nursery St. Ponus Ave.

Fox Run Rd.

Richards Avenue

West Campus ★ East Campus

Connecticut Ave. 95 Richards Avenue

Exit 13

10/02

Public Transportation

Norwalk Bus: WHEELS Routes 11, 12 and 13 stop in front of the west campus at 188 Richards Avenue. Bus Routes on U.S. 1 bring students to the corner of Richards Avenue, within one-half mile walking distance.

Stamford Bus: The F-Route 1 Connecticut transit bus from Stamford stops in front of the west campus of the college. For a timetable, call 327-7433.

South Norwalk Train Station: Take the New Haven Line commuter train to South Norwalk and transfer to the #11 bus on Monroe Street.

Visit NCC online at www.ncc.commnet.edu

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Norwalk, CT 06854-1655
(203) 857-7000

Computer Security

Norwalk Community College
Get where you're going faster